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DISCOPTER

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4 Claims. (Cl. 244—23)

My invention relates to wingless, heavier-than-air flying craft, whose outstanding example, until the time of the instant invention, has been the helicopter.

To a helicopter, a craft constructed on the principles of my invention bears a superficial resemblance, in that both types are sustained by at least one horizontal rotor. From this point on, however, all similarity between the two types of flying craft ends. A craft embodying my invention is distinguished from a helicopter in that the rotor or rotors in my craft are enclosed within a substantially vertical tunnel, the rotor regarded as a whole is mainshaftless and the external form of the craft is not very different from the familiar discus of the athlete, in common with which the craft enjoys certain aerodynamic advantages characteristic of the passage of the discus thru the air. Not only the rotors and power plant compartments but all of the usual moving and fixed protruding parts, present in both airplanes and helicopters, such as stabilizing and directing means and otherwise, are entirely enclosed within the strikingly simple and cleanly streamlined contour line of the craft when regarded from exteriorly thereof in any elevation view, thereby concealing from the casual view such parts.

The above mentioned three salient characteristics distinguishing my craft from the helicopter, set the two types apart by an extent at least as great as the difference between the helicopter and the airplane. Because of this basically new approach to the problem of designing superior flying craft, there is thereby posed a gap in generic terminology that can be filled only incompletely and awkwardly by qualifying the word, helicopter. To fill this gap, I have been compelled to coin a noun, a short, tri-syllabic term, for use now and in the future by myself and others in connection with all craft, whether designed by myself or others on the herein expounded principles, a term that connotes both the external form of the craft and its functional relationship to the helicopter. This term, selected for the title of this specification, is—discopter.

Craft embodying my invention may be sustained and propelled by a single rotor, a pair of coaxial rotors, a plurality of non-coaxial rotors, a plurality of non-coaxial pairs of coaxial rotors, or any other combination of the foregoing. For expounding said principles in a readily intelligible manner and also because it is a recommended type, particularly in the case of small craft, I have selected the type having a single pair of coaxial rotors revolving oppositely for description in this specification and for illustration in the accompanying drawings, in which—

Figure 1 is a plan view of said type as seen from above, the rotors having been removed from the view.

Figure 2 is a side elevation view thereof.

Figure 3 is a plan view thereof as seen from below, the rotors having been removed from the view.

Figure 4 is a fore or bow end elevation view thereof.

Figure 5 is an aft or stern end elevation view thereof.

Figure 6 is an enlarged, sectional view thereof, taken in the plane 6—6 in Figure 1 and as the discopter appears when in non-translational flight.

Figure 7 is a schematic sectional view thereof, taken in the plane 7—7 in Figure 1, to show the disposition of certain valves and air-currents when the discopter is in translational flight.

Figure 8 is an enlarged sectional view thereof, taken in the plane 8—8 in Figure 1.

Figure 9 is a schematic sectional view thereof, taken in the plane 9—9 in Figure 1, showing the disposition of certain valves and air-currents when the craft is in non-translational flight.

Figure 10 is an enlarged sectional view of certain parts within the circumscribed area 10 in Figure 8.

Figure 11 is an enlarged sectional view of certain parts within the circumscribed area 11 in Figure 8.

Figure 12 is an enlarged partly sectional view of certain parts within the circumscribed area 12 in Figure 1, adjacent the roof of the craft.

Figure 13 is an enlarged view of certain parts within the circumscribed area 13 in Figure 10.

Figure 14 is a schematic elevation view of certain parts adjacent the roofs of the two main bodies that are characteristic of the discopter, but embodying an optional, additional equilibrium-controlling means.

Figure 15 is a schematic plan view of the same.

Figure 16 is an enlarged sectional view of certain parts within the circumscribed area 16 in Figure 14.

Figure 17 is a schematic elevation view of a certain hub body in the craft, showing the disposition of certain rocket-type sustaining means.

Refer to Figures 3, 6 and 8. The main structure of the discopter consists of two mutually rigidly secured main bodies, one, a hub body 21, the other, a marginal body 22, disposed around, spaced from and secured to said hub body by a